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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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IBM CORPORATION 3039 CORNWALLIS RD. DEPT. T81 / B503, PO BOX 12195 REASEARCH TRIANGLE PARK, NC 27709			LIN, KENNY S	
			ART UNIT	PAPER NUMBER
			2154	

DATE MAILED: 11/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/691,324	SCHAECK, THOMAS	
	Examiner	Art Unit	
	Kenny Lin	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-17 are presented for examination. Claim 2 is withdrawn from consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya et al (hereinafter Heddaya), US 6,622,157, in view of Sidey, US 5,954,797.
4. Heddaya and Sidey were cited in the previous office action.
5. As per claims 15 and 17, Heddaya taught the invention substantially as claimed including a method for communication with a mobile data processing device by way of a mobile software agent, wherein the mobile data processing device is addressable via a network, said method comprising the steps of:
 - a. Creating a mobile software agent (the creation of a mobile software agent is an essential step required before it can be transmitted and used, therefore creating a mobile software agent is inherent);

- b. Spreading the mobile software agent across the network into one or more systems (col.3, lines 45-51, col.8, lines 33-38);
 - c. Delivering information to a software agent interface component for each of the systems for reception of mobile software agents from the network, including information for making migration or installation decisions (col.8, lines 54-67, col.9, lines 1-14, col.9, lines 30-31, 60-64);
 - d. Evaluating the delivered information (col.8, lines 54-67, col.9, lines 1-14, col.9, lines 30-31, 60-64);
 - e. For each of the systems, installing the mobile software agent on the system if it is determined that the mobile software agent is intended for the system (col.9, lines 60-64);
 - f. Establishing a communication link between the mobile software agent and the mobile data processing device via a mobile data processing device interface component of the system (col.3, lines 52-64, col.4, lines 15-31, col.8, lines 60-67, col.9, line 1);
 - g. Performing actions of the mobile software agent on the mobile data processing device via the mobile data processing device interface component (col.3, lines 52-64).
6. Heddaya did not specifically teach to classify the mobile data processing device on establishment of a connection between the mobile data processing device and the mobile data processing device interface component; and to perform actions of the mobile software agent on

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the mobile data processing device via the mobile data processing device interface component dependent on results of said classifying step. However, Sidey taught to classify the mobile data processing device on establishment of a connection between the mobile data processing device and the mobile data processing device interface component (col.10, lines 39-47); and to perform actions of the mobile software agent on the mobile data processing device via the mobile data processing device interface component dependent on results of said classifying step (col.10, lines 39-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya and Sidey because Sidey's teaching of classifying the mobile data processing device help Heddaya's method to determine the proper communication requirement in connecting with the mobile agent.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya et al (hereinafter Heddaya), US 6,622,157, in view of Sidey, US 5,954,797, Freeman, US 6,330,588, and Minami et al (hereinafter Minami), US 6,407,751.

8. As per claim 16, Heddaya taught the invention substantially as claimed including a mobile software agent for use in communicating information from an originating system to a mobile data processing device associated with a destination node, said mobile software agent comprising:

- a. A communication component for communicating with a mobile software agent interface component on the destination node (col.3, lines 52-64, col.4, lines 15-31, col.6, lines 36-41, col.8, lines 60-67, col.9, line 1, col.10, lines 11-16);

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- b. A recognition component for recognizing the destination node (col.8, lines 54-67, col.9, lines 1-14, col.9, lines 30-31, 60-64);
- c. An execution component to run on the destination node (col.4, lines 64-67, col.5, lines 21-26, 31-36, col.9, lines 60-62, col.10, lines 11-16).

9. Heddaya did not specifically teach a classification component to classify the mobile data processing device; one or more action components for performing specific actions on the mobile data processing device dependent on results from said classification component; a checkback component for checking back to the originating system or to other mobile software agent indicating whether installation on the destination node or the action being performed on the mobile data processing device succeeded or failed; a replication component for producing a copy of the mobile software agent for distribution to other destination systems; a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent; and a self-termination component for terminating the mobile software agent after a preset life span or a defined event.

10. Sidey taught to classify the mobile data processing device (col.10, lines 39-47); and to perform actions on the mobile data processing device dependent on results from said classification component (col.10, lines 39-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya and Sidey because Sidey's teaching of classifying the mobile data processing device help Heddaya's

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method to determine the proper communication requirement in connecting with the mobile agent.

11. Heddaya and Sidey did not specifically teach a checkback component for checking back to the originating system or to other mobile software agent indicating whether installation on the destination node or the action being performed on the mobile data processing device succeeded or failed; a replication component for producing a copy of the mobile software agent for distribution to other destination systems; a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent; and a self-termination component for terminating the mobile software agent after a preset life span or a defined event.

12. Freeman taught to check back to the mobile software agent indicating the action being performed on the mobile data processing device succeeded (col.19, lines 51-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey and Freeman because Freeman's teaching of check the status and the mobile software agent helps Heddaya and Sidney's mobile software agent to take notice of the performance results.

13. Heddaya, Sidey and Freeman did not specifically teach a replication component for producing a copy of the mobile software agent for distribution to other destination systems; a merger component for merging several mobile software agents having like tasks into a single

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merged mobile software agent; and a self-termination component for terminating the mobile software agent after a preset life span or a defined event. Minami taught a replication component for producing a copy of the mobile software agent for distribution to other destination systems (col.8, lines 1-11); a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent (col.1, lines 60-63, col.8, lines 1-11, col.17, lines 40-47); and a self-termination component for terminating the mobile software agent after a preset life span or a defined event (col.16, lines 17-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey, Freemand and Minami because Minami's teaching of mobile software agent splitting, merging and termination help Heddaya, Sidey and Freeman's teachings to replicate mobile agents to processes tasks and to terminate when the tasks of the mobile agents are completed to better control and manage the movement of the mobile agents.

14. Claims 1, 4-5, 7, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya et al (hereinafter Heddaya), US 6,622,157, in view of Sidey, US 5,954,797, and Mathur et al (hereinafter Mathur), US 6,671,745.

15. Mathur was cited in the previous office action.

16. As per claim 1, Heddaya taught the invention substantially as claimed including a system for communication with a mobile data processing device by way of a mobile software agent (abstract), said system comprising:

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- a. Means for transmitting the mobile software agent (col.3, lines 45-51, col.8, lines 33-38);
- b. Means for spreading a mobile software agent from an originating system via a network to one or more destination system (col.3, lines 45-51, col.8, lines 33-38);
- c. Means for running the mobile system agent (col.3, lines 52-56); and
- d. Means for communicating, including a mobile software agent interface component for communicating with the mobile software agent, and a mobile data processing device interface component for communicating with the mobile data processing device (col.3, lines 52-64, col.4, lines 15-31, col.8, lines 60-67, col.9, line 1, col.10, lines 11-16);
- e. A recognition component to recognized the destination system (col.8, lines 54-67, col.9, lines 1-14, col.9, lines 30-31, 60-64); and execution component to run on the destination system (col.9, lines 60-62, col.10, lines 11-16) and one ore more action components to perform specific actions on the mobile data processing device (col.3, lines 52-64).

17. Heddaya did not specifically teach that the mobile software agent includes an event-handling component to handle events communicated via the mobile data processing device interface component relating to the status of the mobile data processing device; a classification component to classify the mobile data processing device; and one or more action components to perform specific actions on the mobile data processing device dependent on results from the classification component. Sidey taught to include a classification component to classify the

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mobile data processing device (col.10, lines 39-47); and one or more action components to perform specific actions on the mobile data processing device dependent on results from the classification component (col.10, lines 39-47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya and Sidey because Sidey's teaching of classifying the mobile data processing device help Heddaya's method to determine the proper communication requirement in connecting with the mobile agent.

18. Heddaya and Sidey did not specifically teach to include an event-handling component to handle events communicated via the mobile data processing device interface component relating to the status of the mobile data processing device. However, Mathur taught to include event-handling component (GWES module) to handle events communicated via a mobile data processing device interface (col.8, lines 47-65; events processed by GWES). Furthermore, Mathur taught to include a component in the GWES module to handles events according to the memory status (col.11, lines 59-63; insufficient memory causes event not processed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey and Mathur because Mathur's teaching of using a event-handling component help Heddaya and Sidey's method to handle events.

19. As per claim 4, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya further taught that the mobile software agent interface component comprises:

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- a. A support component to receive the mobile software agent from the network on the destination system (col.9, lines 60-64); and
- b. A component to deliver installation information for the destination system (col.9, lines 60-64).

20. As per claim 5, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya further taught that the mobile data processing device interface component has at least one communication component to detect events on the mobile data processing device and transmit the events to the mobile software agent (col.3, lines 45-64).

21. As per claim 7, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 4. Heddaya further taught that reception of the mobile software agent by way of the mobile software agent interface component is executed by means of TCP/IP protocol (col.6, lines 44-49).

22. As per claim 9, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya further taught that the mobile software agent interface component and the mobile data processing device interface component are installed on the destination system (col.9, lines 60-64, col.10, lines 11-26).

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23. As per claim 12, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya further taught that further comprising an authentication component to authenticate the mobile software agent to the mobile data processing device (col.9, lines 1-5).

24. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya, Sidey and Mathur as applied to claim 1 above, and further in view of Freeman, US 6,330,588, and Minami et al (hereinafter Minami), US 6,407,751.

25. As per claim 3, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 3. Heddaya, Sidey and Mathur did not specifically teach a checkback component for checking back to the originating system or to other mobile software agent for indicating whether installation on the destination node or the action being performed on the mobile data processing device succeeded or failed; a replication component for producing a copy of the mobile software agent for distribution to other destination systems; a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent; and a self-termination component for terminating the mobile software agent after a preset life span or a defined event.

26. Freeman taught to check back to the mobile software agent indicating the action being performed on the mobile data processing device succeeded (col.19, lines 51-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey, Mathur and Freeman because Freeman's teaching of check the

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status and the mobile software agent helps Heddaya, Sidney and Mathur's mobile software agent to take notice of the performance results.

Heddaya, Sidey, Mathur and Freeman did not specifically teach a replication component for producing a copy of the mobile software agent for distribution to other destination systems; a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent; and a self-termination component for terminating the mobile software agent after a preset life span or a defined event. Minami taught a replication component for producing a copy of the mobile software agent for distribution to other destination systems (col.8, lines 1-11); a merger component for merging several mobile software agents having like tasks into a single merged mobile software agent (col.1, lines 60-63, col.8, lines 1-11, col.17, lines 40-47); and a self-termination component for terminating the mobile software agent after a defined event (col.16, lines 17-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey, Mathur, Freeman and Minami because Minami's teaching of mobile software agent splitting, merging and termination help Heddaya, Sidey, Mathur and Freeman's teachings to replicate mobile agents to processes tasks and to terminate when the tasks of the mobile agents are completed to better control and manage the movement of the mobile agents.

27. Claim 8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya, Sidey and Mathur as applied to claim 1 above, and further in view of "Official Notice".

28. As per claim 8, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya, Sidey and Mathur did not specifically teach that the originating system is a backend system, the destination system is a data processing device with a chipcard reader and the mobile data processing device is a chipcard. Official Notice is taken that the limitations narrowed by this claim is considered obvious and furthermore a matter of design choice, since applicants have not disclosed that the claimed limitations solve any stated problem or are for any particular purpose and it appears that the invention would perform equally well without these claimed features. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to efficiently utilize all claimed means hereto into all suitable devices or systems.

29. As per claim 10, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya, Sidey and Mathur did not specifically teach that the mobile software agent interface component is identical for all mobile software agents and only the mobile data processing device interface component for the associated mobile data processing device needs to be installed. Official Notice is taken that the limitations narrowed by this claim is considered obvious and furthermore a matter of design choice, since applicants have not disclosed that the claimed limitations solve any stated problem or are for any particular purpose and it appears that the invention would perform equally well without these claimed features. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to install all compatible mobile software agent interface components in both the mobile software agent and mobile data processing devices.

30. As per claim 11, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 1. Heddaya, Sidey and Mathur did not specifically teach that the interface components can be downloaded to the destination systems over a network. Official Notice is taken that both the concept and advantage of downloading is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey and Mathur and downloading ability to download the interface components to the destination system for installing or updating of the interface component.

31. Claims 6, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heddaya, Sidey and Mathur as applied to claims 1, 4 and 12 above, and further in view of Vanstone et al (hereinafter Vanstone), US 6,490,682.

32. Vanstone was cited in the previous office action.

33. As per claim 6, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 4. Heddaya, Sidey and Mathur did not specifically teach that the mobile software agent interface component further comprises a component for secure storage of keys. However, Vanstone taught to include a component for secure storage of keys (col.2, lines 34-40). It would

have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey and Mathur and Vanstone because Vanstone's teaching of storing keys would provide Heddaya, Sidey and Mathur's method a way to look up the identity of the mobile software agent.

34. As per claims 13 and 14, Heddaya, Sidey and Mathur taught the invention substantially as claimed in claim 12. Heddaya, Sidey and Mathur did not specifically teach the authentication component comprises: a first component to request a random number from a mobile data processing device, said first component being part of the mobile software agent; a second component to transmit the random number to the originating system, said second component being part of the mobile software agent; a third component to sign the random number by means of a key, said third component being installed on the originating system; and a fourth component to verify the signature, said fourth component being installed on the mobile data processing device. Vanstone taught to obtain a random number, to sign the random number by means of a key and to verify the signature using different components (col.3, lines 15-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Heddaya, Sidey and Mathur and Vanstone because Vanstone's method of using random number, key and signature help Heddaya, Sidey and Mathur's method to establish a unique authentication method in authenticating the mobile software agent to the mobile data processing device.

Response to Arguments

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35. Applicant's arguments filed 8/30/2004 have been fully considered but they are not persuasive.

36. In the remark, applicant argued that (1) Mathur is not directed to a mobile software agent. Mathur does not handle events communicated via a mobile data processing device interface component. Mathur does not teach handling events relating to the status of a mobile data processing device. (2) Sidey does not teach performing actions of the mobile software agent on the mobile data processing device via the mobile data processing device interface component dependent on results of said classifying step since only changes are proposed to the system operator.

37. Examiner traverse the argument:

As to point (1), Mathur taught systems to include application program interfaces (API, software; col.2, lines 19-24), which benefits mobile systems (col.3, lines 22-25). Mathur taught to include event-handling component (GWES module) to handle events communicated via a mobile data processing device interface (col.8, lines 47-65; events processed by GWES). Furthermore, Mathur taught to include a component in the GWES module to handles events according to the memory status (col.11, lines 59-63; insufficient memory causes event not processed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya, Sidey and Mathur because Mathur's teaching of using a event-handling component help Heddaya and Sidey's method to handle events.

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As to point (2), Sidey taught to classify the mobile data processing device on establishment of a connection between the mobile data processing device and the mobile data processing device interface component (col.10, lines 39-47); and to perform actions of the mobile software agent on the mobile data processing device via the mobile data processing device interface component dependent on results of said classifying step (col.10, lines 39-53). Although Sidey taught that changes *may be proposed* to the system operator for operation, Sidey further taught the comparison engine to perform actions such as resetting modem setting (col.10, lines 48-53). Furthermore, it is obvious for a system to perform action without user intervention but sending user notifications. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Heddaya and Sidey because Sidey's teaching of classifying the mobile data processing device help Heddaya's method to determine the proper communication requirement in connecting with the mobile agent.

38. Because Applicants have failed to challenge any of the Examiner's "Official Notices" stated in the previous office action in a proper and reasonably manner, they are now considered as admitted prior art. See MPEP 2144.03

Conclusion

39. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.


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40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenny Lin whose telephone number is (571) 272-3968. The examiner can normally be reached on 8 AM to 5 PM Tue.-Fri. and every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksl
November 18, 2004


11/18/04